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National Extension Workshop

The Impact of Major food Policy Shifts on the U.S. Food Supply and its Producers: Animal Welfare Issues

Presented at the
Joint Annual Meeting
of the
American Society of Animal Science
American Dairy Science Association
Poultry Science Association
Asociación Mexicana de Producción Animal,
and
Canadian Society of Animal Science

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Texas A & M University

and

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USDA/NIFA/PAS

The proceedings are available at:

<http://www.nal.usda.gov/awic>

and

<http://www.nifa.usda.gov>

DEDICATION

These proceedings are dedicated to the memory of James Rock, University of Connecticut. For many years, Jim served on numerous Extension program organizing committees, and provided the evaluation for many Poultry Science Association Extension Workshops, combined Animal, Dairy and Poultry Science Extension Workshops, and several waste management symposia. He also provided the evaluation instrument for bioethics and other workshops or symposia.

Jim served as an Extension Poultry Specialist for many years, wearing many hats and dealing with many subjects as he helped the Connecticut poultry industry through its many transitions to what it is today. As an extension educator, Jim helped many people, and when he retired and became the President of the Connecticut Poultry Association, he still kept education as his main goal. His positive attitude and ready smile will be missed.



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These proceedings are provided by the USDA Animal and Plant Health Inspection Service.

Preface

Brigid McCrea
Delaware State University

The 2010 National Extension Workshop is entitled "The Impact of Major Food Policy Shifts on the U.S. Food Supply and its Producers: Animal Welfare Issues." Our future food security, the structure of agriculture and rural communities, our need to import basic foods, and the cost of food are some intended and unintended impacts of current company, government and personal food policies. The subject matter presented and discussed during the workshop is aimed at a closer examination of the strategies used by animal welfare groups in implementing change to the foods produced and consumed in the United States. Dr. Richard Reynnells will begin the workshop with a discussion of changes to agricultural policy and focus at the National Institute of Food and Agriculture (NIFA). With regard to production practices used on farm, Dr. Jim Reynolds, the keynote speaker, will discuss how policy within companies has shifted to meet the needs of consumers, many of whom apparently prefer that animal management be better aligned with the views of animal welfare groups. Mr. Mike Morris will speak to the same subject, but from the point of view of companies who must make purchases that are sensitive to changing consumer spending habits. We all realize that the world's view of animal agriculture is changing. Dr. Wes Jamison will address animal welfare regulations during this rapidly adjusting climate of animal production and how they fit with new world views. For a better understanding of policy changes at academic institutions, Dr. John McGlone will discuss updates to the Institutional Animal Care and Use protocols. Lastly, Dr. Krishona Martinson, will provide an update on the topic of horse slaughter in the United States, which many consider the hallmark of animal welfare regulations implemented without thorough consideration of the ramifications.

Introduction and Washington Update

**Richard Reynnells
USDA/NIFA/IFPS/AS**

Topics to be covered are:

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Introduction

The theme for the 2010 Joint Extension Workshop, held July 11 in Denver, Colorado, is "The Impact of Major Food Policy Shifts on the U.S. Food Supply and its Producers: Animal Welfare Issues". Speakers represent expertise on a wide range of topics. Jim Reynolds will provide his views on how federal policy in the areas of subsidy programs, biofuels, and increasing regulations all impact animal welfare and the intensification and consolidation of food animal production. Also discussed are private sector policy demands and their impact on management practices. Wes Jamison clarifies the concept of world views, broadly categorized as consumptive-instrumentalist and aesthetic-instrumentalist. World views dramatically impact animal welfare, the structure of agriculture and our food security. The third edition of the Guide for the Care and Use of Agricultural Animals in Research and Teaching" has recently been published. John McGlone will discuss details of the more inclusive use of animals in research

and teaching, as reflected in the name change, the new chapters (farm animal handling and transport, and environmental enrichment), and the other significantly revised chapters. Krishona Martinson will bring us up-to-date on the horse contentious slaughter issue, and the consequences of the ban on horse slaughter characterized by conflicting data and views. The actual welfare of horses apparently has been reduced as evidenced by an increase in unwanted and abandoned horses and an increase in the number of state humane cases involving horses.

Since 1988, the National Poultry Extension Workshop has been created each year by extension specialists. A combined dairy, animal and poultry workshop has been held every three years as a replacement of the poultry workshop and as part of the Joint Dairy, Animal and Poultry Sciences meeting but organized by extension representatives of these societies. The purpose for all of these meetings continues to be to help keep extension specialists, industry, and others up-to-date on current issues and hot topics. This update supports Extension efforts by summarizing opportunities and events that impact the food animal system via several distribution lists. Support for Extension continues to decline, so we must be creative in responding to opportunities, create a positive attitude toward other food-animal professionals, and cooperate to develop collaborative programs that benefit all of food animal sciences (e.g., animal welfare, a non-competitive issue), and help society and decision makers make informed and objective decisions while also recognizing the close relationship between science and ethics in these considerations.

Animal welfare, animal rights, and bioethical issues continue to be the author's primary focus, but responsibilities include a variety of program efforts and are discussed in previous papers (1, 2). Also as discussed previously [1, 2], if you find information of value to others from this meeting, or from my emails, please pass it along. By forwarding information beneficial to persons in other departments or commodity areas you help develop networks outside poultry or your discipline, and thus strengthen our agricultural system.

Poultry Extension Special Recognition Award

The annual Poultry Extension Special Recognition Award (a.k.a. Golden Cup Award) is a USDA coffee cup provided by Richard Reynnells to recognize someone whose contributions are often overlooked. The purpose is to let people know their contributions are appreciated and to recognize that extra efforts by everyone are needed to create a strong extension system. The award is based on personal reflection of a person's contributions over the years, with full realization that many people in extension contribute to successful national programs and are also very deserving of recognition. The idea for this award was taken from a Dairy Extension award provided by Basil Eastwood (retired USDA Cooperative State Research, education and Extension Service, CSREES). The 2010 award is presented to Greg Martin for his many years of contributions at the local, state, regional and national levels. Greg is a multi-county (16) agent in the Pennsylvania State University Extension System, and has been active in the planning of CAST's (Council for Agricultural, Science and Technology) food-animal symposium, "Sustaining Animal Agriculture: Balancing Bioethical, Economic, and Social Issues", the National Poultry Waste Management Symposium, National Poultry Extension Workshops, development of a wide range of regional extension programs, and was Chair of the PSA Extension Committee. Greg is always available to assist in programs such as animal welfare, pest management, or food safety.

National Institute of Food and Agriculture (NIFA)

The 2008 Farm Bill created the National Institute of Food and Agriculture (NIFA), and was discussed previously [1, 2]. The NIFA grant funding structure is the Agriculture and Food Research Initiative (AFRI) and can be seen on our web page: <http://www.nifa.usda.gov>. Work is centered around five thematic or challenge areas: climate change, sustainable bio-energy, food safety, nutrition and childhood obesity, and global food security, as well as foundational programs. Along with associated sections, we have four institutes: food production and sustainability; bio-energy, climate, and environment; food safety and nutrition; and youth, family and community. The Institute of Food Production and Sustainability is comprised of Divisions: Animal Systems; Plant Systems Production; Plant Systems Protection; and, Agricultural Systems. The Organizational Structure, comprised of five components, is provided as Appendix A.

Updates will be available at the USDA web site (<http://www.nifa.usda.gov>) and the Association of Public and Land-Grant Universities (formerly the National Association of State Universities and Land Grant Colleges; at <http://www.aplu.org>). Continue to monitor www.grants.gov for request for application information for the Agriculture and Food Research Initiative (AFRI) and other NIFA programs.

Responsibilities

As is true for state personnel, fulfillment of responsibilities in the National Institute of Food and Agriculture (NIFA) is hampered by a low travel budget. Responsibilities have essentially remained the same as in previous years [1, 2]. Thus, there is less involvement in program development, interaction with multi-state research committees, etc. We also no longer have a budget to print proceedings, so all proceedings will only be available on the web site.

As indicated previously [1, 2], National Program Leaders (NPLs) review and approve Hatch Act projects before funds are released for project support. NPLs also review a variety of grant proposals either as a panel member, ad hoc reviewer or second internal reviewer.

Multi-State Research Committees

Responsibilities as the primary or secondary liaison responsibilities to multi-state research committees have been discussed previously [1, 2]. Currently, my committee assignments are: 1. NC-1029, Applied Animal Behavior and Welfare; 2. S-1027, The Poultry Food System: A Farm to Table Model; 3. S-1035, Nutritional and Management Abatement Strategies for Improvement of Poultry Air and Water Quality; 4. NE-1042, Optimization of Poultry Welfare and Production Systems for the 21st Century; 5. NCCC-209, Agricultural Bioethics; 6. NCERA-089, Swine Production Management to Enhance Animal Welfare; 7. W-1173, Stress Factors of Farm Animals and their Effects on Performance; 8. NEAC-2, Animal Science Advisory Committee; 9. NCCC-097, Regulation of Adipose Tissue Accretion in Meat-Producing Animals; and, 10. SAC-002, Animal Sciences; 11. NC-507, Midwest Poultry Research Program; 12. W-503, Economic Environmental, Genetic, and Nutritional Aspects of Grass-Fed Beef.

These committees are very important, and provide essential networking and collaborative opportunities that expand our understanding of situations, that in turn will greatly impact food animal production and processing systems. If you are interested in participating in a multi-state

research committee, contact the committee chair, the administrative advisor, or the USDA/NIFA liaison, as listed in the National Information Management Support System (NIMSS) records (<http://www.lgu.umd.edu>) or read the descriptive information in NIMSS, and work with your Experiment Station office to be added to a particular committee. You can access committees by their number, title, or obtain all committees within a knowledge area or subject of investigation (topic) or field of science.

Plans of Work (POW), Accomplishment Reports (AR), and Liaison Activities

Little has changed from previous reports [1, 2]. As a state liaison, in addition to the review and approval of Plans of Work and Accomplishment Reports (AR), an NPL interacts with university administrators to assist as needed. National Program Leaders are assigned one or more states for which the NPL functions as the NIFA Liaison. I continue to be the Co-Liaison for North Carolina (1862 and 1890 Land Grant Universities).

As has been stated every year for this presentation, it is critical that faculty provide solid information in the documentation of activities and the impact (return on these tax dollar investments) for AR and CRIS reports. This information is used in the development of portfolio review documents and in other areas such as preparation of comments by USDA administrators. Accountability through documenting the impact of programs is essential in establishing the value of research and extension programs. However, documenting the impact of extension and outreach efforts continues to be very difficult or impossible because of the inability to use a Current Research Information System (CRIS) type system to summarize qualitative data and impacts for extension.

Grant Reviews

As discussed previously [1, 2], NPLs are panel members or panel managers for various grants administered through NIFA. I continue to administer a special research grant, which has fifteen-plus sub-contracts, and a federal administrative grant. Problems with proposals were defined previously. Even special earmarked funds which NPL's are responsible for administering will not be approved if the proposal is deficient. NPLs cannot approve any report for processing unless criteria provided in the directions are met. For example, Institutional Animal Care and Use Committee (IACUC) forms must be provided if the researcher is using live animals in an experiment. If a Principle Investigator (PI) receives authorization for a grant from NIFA grant programs, the funds may given to other researchers if proper documentation is not provided in a timely manner.

Meetings

National Poultry Extension Workshop

Proceedings have been available as a reference in hard copy to interested persons and to libraries [1, 2]. Committee members for the 2010 workshop are: Craig Coufal (MS); Casey Ritz (GA); Pat Curtis; Morgan Farnell (TX); Jacquie Jacob (MN); Ken Macklin (AL); Carlyle Bennett (Manitoba); Greg Martin (PA; Chair of the PSA Extension Committee); and Brigid McCrea (DE). Vanessa Corriher (TX) is the lead editor of the 2010 proceedings.

For many years, James Rock (CT) was a participant on the organizing committee, and the evaluation leader for the Extension and several waste management and bioethics symposia and workshops. Jim died in June, 2010, and these proceedings are dedicated to his memory. Please contact the author if you want to work on the organizing committee for future workshops or if you want a copy of the proceedings.

Future Trends in Animal Agriculture (FTAA)

The background, mission, and vision of the FTAA program was discussed previously [1, 2]. The FTAA continues to focus on the creation of opportunities for on-going positive dialogue between industry, government, and animal activists, so that common ground may be identified and important issues addressed. The ultimate goal is to find ways to improve animal well-being, and to facilitate a balanced and comprehensive approach to dealing with related societal issues. FTAA symposia are open to the public. In 2010, the symposium theme was "The Future of animal agriculture: 2030" [3]. The FTAA organizational committee structure has been restructured, with David Brubaker, Industry Consultant, and Ken Klippen, Sparboe Farms, Inc. being the Co-Coordinators. Proceedings are available on the USDA, National Agricultural Library, Animal Welfare Information Center (AWIC) web site (<http://www.nal.usda.gov/awic>).

Southern Region Poultry Extension Workshop (Quadrennial Workshop, formerly the Triennial Workshop)

For decades this workshop met every three years, but beginning in 2009, in Raleigh, North Carolina, they will meet every four years. This move was to accommodate conflicts with the timing of the biennial National Poultry Waste Management Symposium, and other meetings. This workshop is the last such workshop for any commodity group and now represents all Extension regions for poultry. The Quadrennial Workshop Chair is Ken Macklin (AL). Non-poultry science personnel are welcome and encouraged to participate in these meetings [4].

National Poultry Waste Management Symposium

The 2010 National Poultry Waste Management Symposium will be held in Greensboro, North Carolina, October 26 - 28. The 2010 workshop is in cooperation with the North Carolina Animal and Poultry Waste Management Center, and the Livestock and Poultry Learning Center, which will expand the focus to include swine and other species. The workshop theme is "Balancing Economic and Environmental Issues" and includes content for all animal species. Edgar Oviedo, North Carolina State University, is the Coordinator. Wanda Linker, Alabama Poultry and Egg Association (APEA) has again volunteered to assist the organizing committee by being responsible for the financial aspects, speaker travel, and scheduling of the program. Wanda is a mission-critical person, and we could not have been nearly as successful in our several environmental protection programs over the years if not for the efforts of Wanda, with the support of Johnny Adams, APEA Executive Director.

US Poultry and Egg Association (USPEA) International Exposition

As described for previous years [1, 2], we hold several organizational meetings for professional and USDA committees at the USPEA Exposition in January each year, and we greatly appreciate their continued support [5]. The author coordinates many of these meetings to

minimize conflicting schedules, so contact him if you need to schedule a meeting during that period. Or, the USPEA may be contacted directly to schedule a separate room for an event.

CAST's Food-Animal Agriculture Symposium

CAST co-sponsored the symposium, "Sustaining Animal Agriculture: Balancing Bioethical, Economic, and Social Issues" with USDA Animal and Plant Health Inspection Service. The symposium was held June 8 - 10, 2010 in the Jefferson Auditorium of the South Agriculture Building in Washington, DC. The purpose of the symposium was to explore the many aspects of food-animal agriculture and its interaction with crops, land utilization, and society. Thirty-two speakers shared their expertise and experience to create a more holistic understanding of these issues and potential solutions. The proceedings are available at the CAST website (www.cast-science.org), or the USDA/NAL/AWIC website (<http://www.nal.usda.gov/awic>). USDA/APHIS Animal Care provided proceedings which may be obtained by contacting the author, and later from CAST.

USDA and other Information

New Personnel

NIFA is fortunate to have two new outstanding individuals in our unit. Steve Smith joined NIFA in 2009 as a National Program Leader, Animal Production Systems. Steve last worked as a Manager, CRM & Business Analysis at Southern States Cooperative, Richmond, Virginia, from 1993 to 2009. His earned a Ph.D. in ruminant nutrition with a minor in biochemistry and a M. S in Animal Science from the University of Kentucky, and a B. S. in Agricultural Science at the University of Illinois, Champaign, Illinois.

Margo Holland also joined NIFA in 2009 as a National Program Leader, Animal Health and Well-Being, in the Competitive Programs Unit. Margo leads AFRI programs, that may include animal welfare components. Her background includes work at the College of Veterinary Medicine at Michigan State University, Iowa State University, and the University of Tennessee prior to joining NIFA. Margo earned her DVM at Tuskegee University, and the PhD in Veterinary Pathology from Michigan State University.

Grants

Grant procedures were discussed in previous reports [1, 2]. Grant application forms, deadlines, procedures, and other information can be found at: <http://www.nifa.usda.gov>; www.grants.gov; or <http://www.nifa.usda.gov/fundingopportunities/requestforapplications>. If you can not directly access the files, use of an shortened address may prove successful.

Portfolio Evaluation

NIFA portfolio reviews were discussed previously [1, 2]. The author is currently lead for Knowledge Area (KA) 306, Environmental Stress in Animals; KA 308, Improved Animal Products (Before Harvest); and, KA 315, Animal Welfare. An external review was held in the fall of 2009. Evaluation of programs and reporting of impacts is essential for the success and continuation of food animal programs at land grant universities and USDA. Also discussed elsewhere [1, 2], are the increasing demands for accountability for all of us, which requires

increased documentation. It would be helpful to ask your industry or other clientele what dollar or other quantifiable value Extension programs have for individual companies or farmers, or the food animal system in which you work. This quantitative information is used in our portfolio review documents and elsewhere. Accomplishment Reports, Success Stories, and other documented positive impacts of Extension programs that are quantitative and qualitative in nature are also important and must be provided decision makers. It is critical that decision makers at all levels know and appreciate Extension and the Land Grant University's value to the food animal system.

Projects

USDA Informal Animal Welfare Working Group

USDA personnel hold quarterly meetings to discuss current issues related to animal welfare or bioethics that could impact food animal production and processing systems in the United States as stated previously (1, 2). The group does not set or influence USDA policy, but functions as an educational and networking group to keep USDA personnel up to date on animal welfare, animal rights, and bioethical issues. We may schedule a guest speaker from industry, academia, activist group or government agency to discuss their programs. These meetings are not open to the public.

Diverse Voices in Agriculture

As discussed previously [1, 2], this series consists of informal and on-demand seminars on a wide variety of current topics. While the primary intended audience is USDA personnel, these meetings are open to the public. The purpose continues to be to provide an opportunity to non-government organizations and individuals to present ideas and issues to USDA personnel and the public. These seminars are one-time only events, so USDA and other personnel would not be exposed to this information through normal channels.

Animal Well-being Assessment Contest

The Animal Welfare Judging Contest continues to be coordinated by Camie Heleski of the Animal Behavior and Welfare Group at Michigan State University, who shares leadership with personnel from other universities [1, 2]. Students evaluate live animals or CD-based situations of animal management and provide their reasoning to judges. The committee has a permanent structure that will enable them to better organize the meetings, develop judging scenarios, and move the contest to the next level. The contest is held in November each year, and is open to undergraduate, graduate and veterinary students, with awards presented in each category. They intend to eventually transfer this concept to 4-H and FFA competition, as an assessment of food animal husbandry practices, and these youth programs would be geared to Seniors or Juniors in High School, as well as tied closely to the collegiate assessment contests.

The contest continues to be an excellent opportunity to train students in animal behavior, animal welfare and management areas, with incorporation of bioethical considerations. The contest emphasizes the importance of collaboration and networking between disciplines to address animal welfare issues. As stated previously [1], bioethics are simply ethics as applied to biological systems, and are thus important in discussions of animal welfare and animal rights issues. These issues are becoming increasingly polarized and are part of public debates and

voting decisions on propositions on election day, and certification programs. These discussions help us understand societal perspectives on animal treatment, and the numerous factors that contribute to views of restrictions or imperatives of animal use.

Distribution Lists

The author continues to rely on the e-mail as the primary system to provide information to multi-state committees and others, and should be contacted if you want to be added to any distribution list. Lists include: miscellaneous poultry, animal rights/welfare, game birds, food safety, biosecurity, and those related to the multi-state research projects. Contact me if you think an additional listing would be beneficial to poultry or animal science professionals.

American Poultry Historical Society (APHS)

APHS programs have been discussed previously [1]. The APHS continues to recognize career contributions to the poultry system through the Hall of Fame award [6] which will be presented at the 2010 US Poultry and Egg International Exposition, and other contributions by their biennial award through the Poultry Science Association. In 2010, Nick Zimmermann, University of Maryland, was the recipient in honor of his countless hours of work for the organization.

PSA 2010 Tyson Foods Support Personnel Award

We gratefully acknowledge the support of Tyson Foods, Inc. for their leadership and support for this important award [7] that is also unique to the animal sciences. Michael Ford, University of Kentucky, was selected as the 2010 recipient of the Support Personnel Award for his exceptional contributions and dedication to the University of Kentucky Animal Science Department. The award consisted of a check for \$500, and a commemorative plaque inscribed with the Mike's name and a statement recognizing his achievement.

As in previous years, all persons nominated for the award were very well qualified, and had a wide range of backgrounds. Twenty-one persons reviewed the nomination packages, with individuals asked to recuse themselves if any potential for conflict of interest existed or could be inferred. Nominators are highly encouraged to resubmit their nominee's package for 2010.

SUMMARY

1. Food animal system issues, and programs to address these issues, are discussed.
2. USDA personnel, programs, opportunities, and contributions to the food animal system are discussed.
3. Examples of networking, collaborative opportunities, and accountability are provided, that enhance our effectiveness and value to the food animal system and society.
4. Extension personnel should continue to provide leadership and take advantage of the many opportunities that exist to participate in cutting edge areas.

REFERENCES AND NOTES

1. Reynnells, R. D., 2009. Washington Update. *J. Appl. Poult. Res.* 18:389 - 397.
2. Reynnells, R. D. 2007. Washington Update. Combined Proceedings, 2007 and 2008 National Extension Workshops. J. Timmons, J. Jacob, and R. Reynnells, Co-Editors. Available in hard copy from the author.
3. Future Trends in Animal Agriculture symposia series. Recent symposia were held in 2002, 2003 (two), and 2004 through 2010. Contact the author (202.401.5352; rreynnells@nifa.usda.gov) for a copy of any of the proceedings (or related proceedings on bioethics) or to inquire about participating on the organizing committee.
4. Contact for the Quadrennial (Triennial) Workshop: Ken Macklin (AL; 334.844.4225).
5. US Poultry and Egg Association (USPEA) International Exposition, World Congress Center, Atlanta, Georgia. Organizational meetings include several workshops, schools, multi-state research and other committees, and the American Poultry Historical Society (APHS) Annual Meeting. Everyone is welcome at most of these meetings, particularly the APHS, and Extension committees. For other meetings, contact the Chairperson. The schedule is always available as emails from the author and at the registration desk for the Southern Poultry Science Society Annual Meeting. Contact the author if you want to be added to the Miscellaneous Poultry (or other) Distribution List, which will ensure you receive the schedule.
6. For information on the APHS Hall of Fame nomination procedure and deadlines, contact Nick Zimmermann (301.405.2805; University of Maryland), who coordinates this award. The Historical Society welcomes persons at all levels and areas within the poultry system, particularly students. You do not need to be a Poultry Science Member to join the APHS.
7. The purpose of the Support Personnel Award is to acknowledge the long term contributions by support personnel, whose dedication and work are critical to the ability of faculty, industry, or government personnel to receive the awards for which they are eligible to compete. This Award is the only professional level award of its kind, and supplements any existing university awards. The award is open to support personnel in the industry, government and universities. Nominations in all of these areas are enthusiastically encouraged. As stated previously, without reservation, that faculty members and other researchers are extremely fortunate to have such high quality personnel supporting their programs. The premise for initiating this award was that many exceptional people are working in our system and should be recognized for their contributions.

The Impact of Major Food Policy Shifts on the US Food Supply and its' Producers: Animal Welfare Issues

James Reynolds
University of California, Davis.

Major Governmental policy shifts that have impacted the welfare of farm animals in the US have included changes in farm subsidy programs, milk price supports, subsidizing ethanol production and increasing environmental regulations. These have had effect on the consolidation of farm production and subsequent changes in animal housing and management.

In the US many policies are determined by the private sector, not the government. This has been the case with farm welfare issues. Because our society prefers industries to set standards or regulations the trend in the US has been for retailers of food products to work to develop welfare standards tolerated by consumers. Examples using the housing of poultry and sows and cattle tail docking and dehorning will be discussed to illustrate the effects of governmental policy driving consolidation and production efficiency and the attempts by retailers to counteract the dissonance in animal welfare experienced by animals and consumers.

Purchasing Strategies for Retailers in Light of Shifting Policies

Mike Morris
YUM Brands

Cancelled. Paper and power point not provided.

Animal Agricultural Conflict as Competing Worldviews

Wes Jamison
Cornerstone Public Relations, LLC

Animal Agriculture in industrialized nations has become the locus of intense conflict regarding the proper role and treatment of animals. Most analysis of the related animal welfare issues involves physiological, behavioral, or economic research focused on confinement systems and their impacts on the animal. Nonetheless, all of these analytic constructs are socially derived in that the larger social and political context defines what constitutes acceptable research and valid questions. However, this paper argues that animal welfare can be better understood as a social conflict between the competing worldviews regarding animals and their roles in human life. Consumptive-instrumentalist worldviews accept that animals and animal products will be slaughtered and consumed for human benefit; hence animal welfare becomes a function of that reality. Aesthetic-instrumentalist worldviews conversely understand the role of animals as companions or in other aesthetic roles for human benefit, hence animals are protected from consumptive uses. These two views are irreconcilable in that consumptive-instrumentalism results in animal death, while the goal of aesthetic-instrumentalism is the perpetuation of animals for human benefit.

Update on the Guide for the Care and Use of Agricultural Animals in Research and Teaching

J. J. McGlone
Texas Tech University
and
J. Swanson
Michigan State University

In January, 2010, the third edition of the Ag Guide was published. The first edition was in 1988 and the first revision was in 1999. The third edition of the Ag Guide had 62 authors with expertise in each common species of farm animal and from each major discipline of the animal sciences. In addition, the authors represented the diversity of the FASS membership and Veterinarians and Agricultural Engineers. This updated Ag Guide is different in some meaningful ways. Previous editions used the title of agricultural animals in agricultural teaching and research. The title was changed by deleting the second use of the word agricultural. The authors concluded that this Guide applies to care of agricultural animals in any type of research and teaching (biomedical or agricultural). Two new chapters were added: farm animal handling and transport, and environmental enrichment. The husbandry and animal health chapters were reorganized and expanded. Information on biosecurity and genetically engineered animals was added. The scientific literature was updated in each species chapter. The veal chapter was deleted and information in calf husbandry was added to the beef and dairy chapters. The revised Ag Guide suggests that all animal uses be understood and managed by the institution, including field studies on commercial farms. The revised Ag Guide will be a useful resource to people that conduct and oversee research and teaching using agricultural animals.

Update on Horse Processing (Slaughter)

Krishona Martinson
University of Minnesota

and

Tom Lenz
Pfizer Animal Health

Background

The American Horse Council (AHC) estimates there are 9.2 million horses in the United States (US) (1). It is estimated that 1 to 2% of US horses are “unwanted” (92,000 to 184,000) (1). Unwanted horses are those no longer wanted by their owner because they are old, sick, injured, unmanageable, or fail to meet owner expectations (2).

Slaughter (processing) is the humane ending of an animal's life under federal regulation when the carcass is processed at a licensed meat plant for food purposes (3). According to the American Veterinary Medical Association (AVMA), there are three approved methods for the euthanasia of horses: chemical euthanasia with pentobarbital or a pentobarbital combination, gunshot, and a penetrating captive bolt (4).

In 2007, the last year of equine processing in the US, 58,000 horses were processed for meat in the US, 35,000 were exported to Canada and 45,000 were exported to Mexico (5). Between the years 2002 to 2005, horses shipped to Canadian processing plants included: 43% Geldings; 52% Mares; 3% Stallions with 70% Western-type; 11% English-type; and 4% Draft –type (6). In general, these types of horses reflect the demographics of the US horse population, with no specific type or breed of horse standing out as the model unwanted horse (5).

Legislation

In 1996, the Animal and plant Health inspection Service (APHIS) was given regulatory responsibility for humane commercial transportation of horses to processing plants. The 1996 legislation also began to phase out the use of double-decker trailers for horse transportation. Double-decker trailers were fully phased out in 2006 (7).

Legislation surrounding horse processing began in 2001 when a bill (Morella – NY) prohibiting the transport of horses to slaughter was introduced. This bill was never taken up by the US House, however, but it did strike an emotional chord with horse owners and the general public. There were several implications to the 2001 bill. Proponents argued it would eliminate pain and suffering of horses shipped to processing plants and that unwanted horses could be absorbed by equine retirement and rescue organizations. Opponents argued the unintended consequences of increased neglect, abuse and abandonment, as well as the added cost of euthanasia, carcass disposal, and shipment to foreign countries without APHIS oversight (8).

In 2003 and 2004, The American Horse Slaughter Prevention Act (HR 857 and S 2352) was introduced (Sweeney – NY and Ensign - NV) to prohibit the slaughter of horses for human consumption (9,10). Both bills limited the methods available for euthanasia of horses, including the penetrating captive bolt. However, neither bill was moved out of the committee. The Horse Slaughter Prohibition Bill (HR 503) was introduced in the House on February 1, 2005 and aimed to prohibit the sale or transportation of horses to slaughter for human consumption (11). A similar bill was introduced in the Senate (S 1915) by Senator Ensign of Nevada (12). In 2006, HR 503 passed the House, but was not taken up by the Senate. In 2007, HR 503 was reintroduced (Whitfield – KY) along with a new Senate bill S 311 (Landrieu – LA). Both bills aimed to end slaughter of the US horse for human consumption and prohibited export to other countries. Neither bills moved forward.

Federal legislation to stop horse processing for meat became a moot point when in 2007, a 1949 TX law that prohibited the slaughter of horses was discovered and enforced, closing the two horse processing plants in Texas (13). That same year, IL bill HB 1711 was passed and banned slaughter of horses for human consumption in IL (14), closing the remaining equine processing plant in the US. An appeal to the US Supreme Court was unsuccessful.

In 2008, The Prevention of Equine Cruelty Act (HR 6598) was introduced (Conyers – MI) and imposed a fine or prison term for possessing, shipping, or transporting horses or horse parts for human consumption (15). The bill gave enforcement to the US Attorney General and not the Secretary of Agriculture. The bill was reintroduced in 2009 (HR 503) but has not been taken up by the House.

Some states have also introduced horse processing bills. California and Florida have bills opposing processing, whereas Arizona, Idaho, Illinois, Kansas, Kentucky, Minnesota, Montana, Missouri, Oklahoma, South Dakota, Utah, and Wyoming have bills that support processing and transportation for equines to processing. Bills in Idaho, South Dakota, and Wyoming have passed, while others are pending.

In 2009, the Senate ordered the Government Accounting Office (GAO) to conduct an investigation into the impact that banning US horse slaughter has had on horse welfare and farm income. The study results are expected in early 2011.

Research

In response to the increase in unwanted horses in the US and pending legislation, several researchers and organizations have responded by addressing and researching critical issues surrounding unwanted horses.

Can rescue/retirement facilities handle all unwanted horses? The AAEP estimates that there are 450 not-for-profit rescue/retirement facilities in the US with capacity for 6,000 to 10,000 horses. There is an estimated 100,000 unwanted horses per year costing \$2,300 per horse per year for care (AHC, 2009) which totals \$230 million. Additionally it costs \$385 per horse for euthanasia and carcass disposal (AHC, 2009) totaling \$38.5 million overall (16).

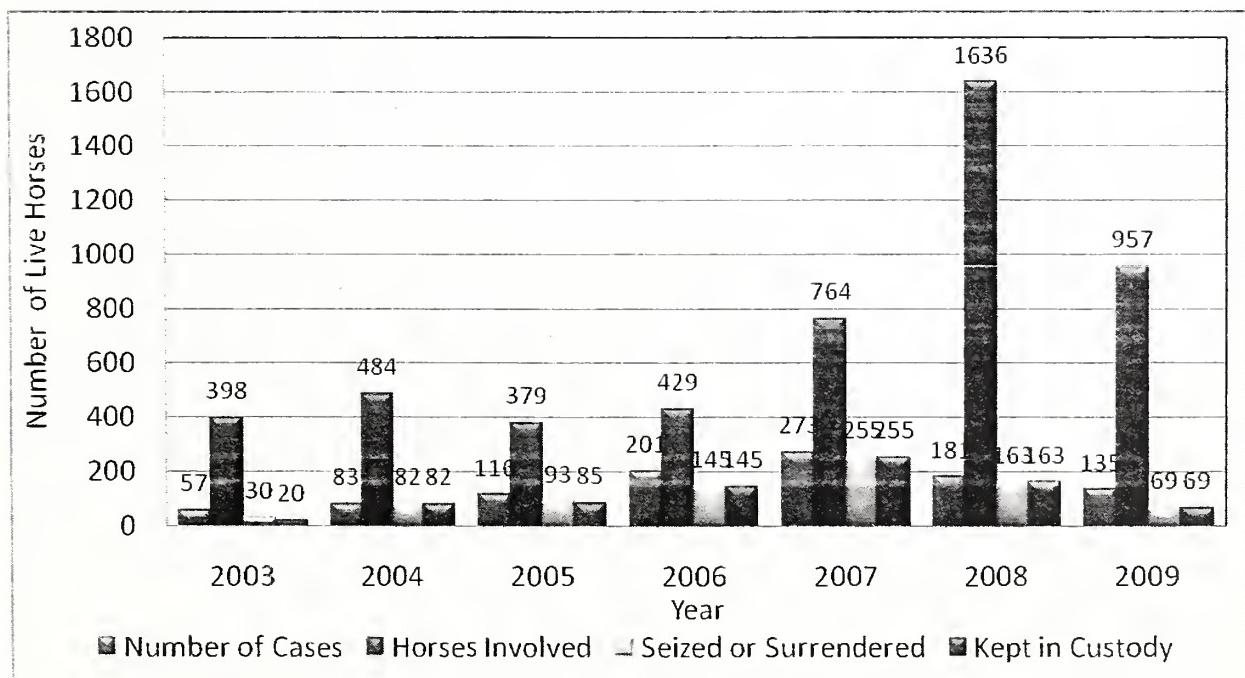
Are horses transported to slaughter cared for? Seventy-seven percent of severe welfare problems of 1,008 horses transported to slaughter were caused from abuse or neglect by the owner (17). Fighting between horses was the major cause of injuries during transportation.

Why is the number of unwanted horses increasing in the US? The Unwanted Horse Coalition (AHC) conducted a study from November 2008 to January 2009 to investigate this question (16). More than 23,000 horse owners, equine industry, and non-horse owners participated. More than 90% of participants believed that the number of unwanted, neglected, and abused horses is increasing. About 87% of the participants indicated that in the past year, the issue of unwanted horses has become "a big problem," compared with only 22% three years ago. The economy was considered to be a significant contributor to the unwanted horse problem. The closing of the nation's processing facilities, changes in breed demand plus indiscriminate breeding, and the high costs of euthanasia and carcass disposal were also noted. Sixty-three percent of equine rescue and retirement facilities polled reported that they are at, near, or have full capacity, and on average, turn away 38% of the horses brought to them. Top solutions for solving the unwanted problem were education on purchasing and owning responsibly, increasing private rescue and retirement facilities, reopening US processing plants, and increasing the options and resources for euthanasia and carcass disposal.

Unintended Consequence

In MN, the number of horses involved in humane cases has dramatically increased between 2003 and 2009 (Figure 1). The increase in unwanted horses is likely to influence development and content of equine Extension programs across Minnesota and the US. Other University Extension services will likely focus on, or are responding to, similar trends observed in their states.

Figure 1. Number of live horses involved in animal human society investigations from 2003 to 2009 in Minnesota.



Extension's Role: A Minnesota Example

The role of Extension is to provide research based information to horse owners, and to cooperate with agencies and organizations to explore and implement solutions. In Minnesota, this is being accomplished through legislative support, education, and *The Gelding Project*.

Extension supported and assisted the Minnesota Horse Council with legislation in Minnesota that defines horses as livestock. The law now reads "horses and other equines raised for the purposes of riding, driving, farm or ranch work, competition, racing, recreation, sale, or as breeding stock are livestock. Horses and their products are livestock and farm products for purposes of financial transactions and collateral. Raising horses and other equines is agricultural production and an agricultural pursuit" (17.459 HORSES. Subdivision 1 and 2. Classification as livestock).

Education is provided in the form traditional (face-to-face) regional and local horse owner programs, e-newsletter articles, factsheets, website information (www.extension.umn.edu/horse), and social media (Facebook) efforts. As an example, the factsheets, *Equine Economics: Optimizing Horse Health and Management on a Budget* and *Humane Options for Unwanted Horses* can be downloaded from the University of Minnesota Horse website.

The Minnesota Horse Welfare Coalition (MHWC) was developed in 2008 in response to the growing number of equine related humane cases in Minnesota. MHWC includes the MN Horse Council, MN Animal Humane Society, Equine Rescues, University of MN, and MN Association of Equine Practitioners. The MHWC developed *The Gelding Project*. *The Gelding Project* is made up of two components, education and free castration clinics (18). *The Gelding Project* allows horse owners who enroll in the program to earn a voucher for a free castration once they attend eight hours of education covering eight different areas of horse ownership. The stallions must be halter broke with two descended testicles. The voucher covers the cost of castration, anesthesia, post operative antibiotic and tetanus prophylaxis. The MN Horse Council reimburses the participating veterinarian for their service and participants must be at least 18 years old and a Minnesota resident.

Free castration clinics, privately funded by donors, are planned each spring and fall. To date, two clinics have taken place in September 2009 and May 2011. To be eligible for the free castration clinics, horse owners must be referred by a horse rescue, humane agent or local veterinarian based on an economic hardship. Castrations are performed by University of Minnesota veterinary students while supervised by licensed equine veterinarians. Since the free clinics have started, 40 stallions have been castrated including 12 Miniature horses, 6 Arabians, 6 Quarter Horses, 5 Mustangs, 3 American Paint Horses, 3 Pintos, 2 Miniature Donkeys, 1 Welsh pony, 1 Shetland pony, and 1 Peruvian Paso with ages ranging from 4 months to 19 years (18). These clinics have saved Minnesota stallion owners \$10,000 in castration fees and eliminated about 1,000 potential foals.

Conclusion

The equine industry will never be able to eliminate all unwanted horses in US. Therefore, Extension's Role will always be essential to aid in keeping these numbers down. Extension should continue to provide service through research, outreach, education, legislative support,

facilitating cooperation within the equine industry, and exploring and implementing solutions to the unwanted horse problem.

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APPENDIX A

Program and Speaker Contact Information

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Time

9:30 - 9:45	Introduction and Washington Update Richard Reynnells USDA/CSREES/PAS 800 9 th Street, SW Room 3140 Waterfront Centre Washington, DC 20250-2220 T#: 202.401.5352 F#: 202.401.6156 email: rreynnells@csrees.usda.gov
9:45 - 10:30	Policy Shifts and the Impact on Production and Animal Welfare Jim Reynolds, UC Davis American Association of Bovine Practitioners 1514 W. Kaweah Ave. Visalia, CA 93277-2327 T#: 559.688.1731 F#: 559.686.4231 email: jreynold@vmtrc.ucdavis.edu currently: Jim Reynolds DVM Professor, Large Animal Medicine Western University, College of Veterinary Medicine 309 E. Second Street Pomona, CA 91766-1854 T#: 909-469-8230 C#: 559-799-8437 email: jreynolds@westernu.edu

10:30 - 10:55 Purchasing Strategies for Retailers in Light of Shifting Policies

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11:15 - 11:40 World Views and Animal Welfare Regulations

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11:40 - 12:05 Update on the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching

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12:05 - 12:30 Update on the Horse Slaughter Issue

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APPENDIX B

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APPENDIX C

Power Point Presentations

Introduction and Washington Update	
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Krishona Martinson, University of Minnesota	
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Introduction and Washington Update

Richard Reynnells

Introduction and Washington Update

Richard Reynnells, NPL, Animal Production Systems
USDA/NIFA

COMBINED ANIMAL, DAIRY AND POULTRY
SCIENCE EXTENSION WORKSHOP

JOINT ANIMAL, DAIRY AND POULTRY SCIENCE
ASSOCIATION ANNUAL MEETING

Denver, Colorado

JULY 11, 2010

> 2010 COMMITTEE MEMBERS

- Vanessa Corriher (TX; ASAS)
- Wm. Justin Sexten (MO; ASAS)
- Bob Thaler (SD; ASAS)
- Glen Selk (OK; ASAS)
- Mireille Chahine (ID; ADSA)
- Joe Dalton (ID; ASDA)
- Tamilee Nennich (Purdue; ADSA)
- Greg Martin (PA; PSA)
- Brigid McCrea (DEL State; PSA)
- Casey Ritz (GA; PSA)
- Craig Coufal (TX; PSA)
- Richard Reynnells (USDA; PSA; Chair)

Introduction

- Theme:

The Impact of Major Food Policy Shifts
on the U.S. Food Supply and its
Producers: Animal Welfare Issues

Moderator: Tamilee Nennich

Presentations

- Policy Shifts and the Impact on Production and Animal Welfare: Jim Reynolds
- Purchasing Strategies for Retailers in Light of Shifting Policies: Mike Morris
- World Views and Animal Welfare Regulations: Wes Jamison

- Update on the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching: John McGlone
- Update on the Horse Slaughter Issue: Krishona Martinson

Poultry Extension Special Recognition

- Adapted from the Dairy Award. Basil Eastwood
- Greg Martin, The Pennsylvania State University
 - Environment and management issues
 - Extension workshop and other committees
 - NPWMS

New Personnel

- Margo Holland
 - National Program Leader, Animal Health and Well-Being
 - In the Competitive Programs Unit, leads AFRI programs
 - Started in 2009
 - College of Veterinary Medicine at Michigan State University, Iowa State University, and the University of Tennessee prior to joining NIFA
 - DVM Tuskegee University
 - PhD in Veterinary Pathology from Michigan State University

New Personnel

- Steve Smith, National Program Leader, Animal Production Systems
 - B.S., Agricultural Science University of Illinois
 - M.S., Animal Science, University of Kentucky
 - Ph.D., Ruminant Nutrition, Biochem.; UKY
 - Started at NIFA in 2009
 - National Program Leader, Animal Production Systems
 - Southern State Cooperative, Richmond, VA
 - Manager CRM & Business Analysis

PSA Support Personnel Award

- Funded by Tyson Foods, Inc.
- 2010: Jesse Lyons, University of Missouri
- Purpose: Acknowledge the long term contributions by support personnel;
 - recognize their work is critical to the ability of faculty to receive awards, etc.
 - only professional award, and supplements university awards
- Submitted for consideration to ASAS Board of Directors, who declined; concept needs a champion in ASAS and ADSA

CAST Food Animal Agriculture Symposium

- SUSTAINING ANIMAL AGRICULTURE: BALANCING BIOETHICAL, ECONOMIC, AND SOCIAL ISSUES

Jefferson Auditorium
USDA South Agriculture Building

June 8 – 10, 2010



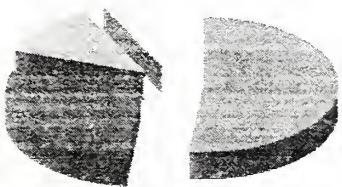
IMPRESSIONS FROM THE AGRICULTURAL COMMUNITY REGARDING FOOD- ANIMAL WELFARE & AGRICULTURAL REGULATION

Gregory P. Martin, Ph.D., PAS
The Pennsylvania State University Extension
Southeast Region

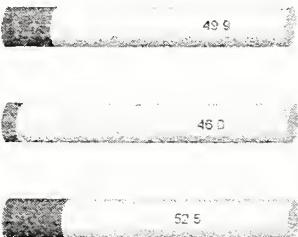
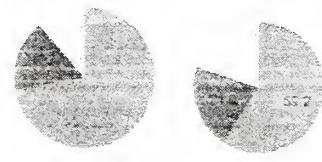
Tools Used

- Questionnaire Built
- Canvassing via Survey Monkey
 - Data Downloaded 21MAY2010
- Looking primarily for farmers and farm groups associated with animal agriculture
- Only a sample, not a cross-section !
- 1.077 questionnaires completed

Impressions



Impressions



Thank
You !

Gregory P. Martin, Ph.D., PAS
Pennsylvania State University

gpm10@psu.edu
<http://drbirdnotes.blogspot.com/>

- Proceedings will be available:

- CAST website: <http://www.cast-science.org>
- USDA/NAL/AWIC website: <http://www.nal.usda.gov/awic/pubs/>
- USDA/NIFA website: <http://www.nifa.usda.gov>

National Institute of Food and Agriculture

- October 1, 2009
- Replaced the Cooperative State Research, Education and Extension Service
- The Agriculture and Food Research Initiative replaced the National Research Initiative

NIFA Portfolio Evaluation

- A five year portfolio review for Plant and Animal Systems was completed in 2009
 - An internal review done annually
- Areas of responsibility:
 - KA 306, Environmental Stress in Animals
 - KA 308, Improved Animal Products (Before Harvest)
 - KA 315, Animal Welfare

CSREES Portfolio Evaluation

- CSREES responding to request for formal analysis of program portfolio
 - Accountability issues
 - Prove your budget is justified
- One outcome: the need to document quantification of qualitative extension effort

CSREES Portfolio Evaluation

- Ask clientele what your work means to them, as a dollar value, and include in reports.
- The days of "knowing" we are doing good things are over.
- Budgets must be justified. Extension and other formula funds may not be protected.

Animal Welfare Related Activities by NIFA

- 200x **National Extension Workshops** include AW component
- 2007 Bioethics Symposium: Proactive Approaches to Controversial Welfare and Ethical Concerns in Poultry Science
- 2008 The Unwanted Horse Issue: What Now?

24

- 2002 – 2010 Future Trends in Animal Agriculture
- 2009: The Future of Animal Agriculture: 2030
- 2010: Legislation to Address Animal Welfare Issues: Is this the Best Approach?

FTAA and other animal welfare related proceedings are available at:

<http://www.nal.usda.gov/awic>

Animal Welfare Related Activities by NIFA

Diverse Voices in Agriculture

periodic seminar series; since ca. 2003
primary audience is USDA personnel
open to the public

USDA Informal Animal Welfare Working Group

co-coordinated with APHIS/AC; ca. 2000
USDA/federal government personnel only
discussion of current and agency events

Other efforts to assist Extension and industry clientele understand animal welfare issues

- Email distribution lists

- Animal welfare
- Bio-security
- Several multi-state research committees
- Miscellaneous animal science
- Miscellaneous poultry science
- Miscellaneous food science

Multi-State Research Committee examples

- NE1042, Optimization of Poultry Welfare and Production systems for the 21st Century;
- NCCC209, Agricultural Bioethics;
- NC1029, Applied Animal Behavior and Welfare;

Multi-State Research Committee examples

- NCERA089, Swine Production Management to Enhance Animal Welfare;
- NC507, Midwest Poultry Research Program;
- S1035, Nutritional and Management Abatement Strategies for Improvement of Poultry Air and Water Quality;

Multi-State Research Committee examples

- W503, Economic, Environmental, Genetic, and Nutritional Aspects of Grass-Fed Beef;
- W1173; Stress Factors of Farm Animals and their Effects on Performance
- NC507, Midwest Poultry Research Program;

eXtension

- New technologies change the way we think and work in Extension
- A tool for collaboration, delivery of content, interacting and reaching new users, enriching communities
- Easier to connect with each other
- Expand budgets, collaborate across state lines
- On Facebook, YouTube, Twitter
 - My Space; virtual worlds

eXtension

- Communities of Practice
 - NPL on team
 - Animal Welfare
 - Small and Backyard Poultry Flocks
- Ask the expert
- 2010, 54 Communities of Practice, + more
- Extension has 201 courses on moodle
- <http://about.extension.org/why-extension/>

eXtension CoP

National Program Leaders roles are:

- Understand the Mission, Vision, Values, & Guiding Principles of eXtension.
- Serve in an advisory capacity.
- Provide relevant insight, guidance, advice, and assistance.
- Assist in effective reporting by CoPs.

eXtension CoP

- National Program Leaders roles are:
- Understand the Mission, Vision, Values, & Guiding Principles of eXtension.
- Serve in an advisory capacity.
- Provide relevant insight, guidance, advice, and assistance.
- Assist in effective reporting by CoPs.
- Interact with administrators at institutions
- Provide equal and unbiased advice and consideration for every proposal that comes to them for comment
- As managers for grant programs, help CoPs identify relevant funding sources.
- Help integrate eXtension into certain funding programs.
- Aid in the formation of additional CoP and proposal development
- Help educate and update partners i.e. Department Heads, administrative committees, Deans and Directors about eXtension
- Assist in the paradigm shift or perception of extension at the institutional level, College, Department.
- Assist in integration of eXtension with teaching and research.
- Consider where other Federal agencies and NGOs can connect with eXtension and help to foster that integration

Animal Welfare Assessment Contest

- Assist on committee, led by Camie Heleski, Michigan State University
- Undergraduate student section
- Graduate student section
- Veterinary student section
- Emphasizes the importance of collaboration between disciplines
- Focuses on AW and behavioral issues on different species each year

National Poultry and Animal Waste
Management Symposium

- October 26 – 28, 2010
- Sheraton Greensboro at Four Seasons
- In cooperation with
 - North Carolina Animal and Poultry Waste Management Center
 - National Livestock & Poultry Environmental Learning Center

QUESTIONS?

Policy Shifts and the Impact on Production and Animal Welfare

Jim Reynolds

Symposium: National Extension Workshop, July 11, 2010

The impact of major food policy shifts on the US food supply and its producers: Animal welfare issues

Jim Reynolds DVM, MPVM
UC Davis School of Veterinary Medicine
VMTRC

The Impact of major food policy shifts on the US food supply and its producers:

Animal welfare issues

- Why are we talking about farm animal welfare issues?
- What is animal welfare?
- What are some of the current issues in the USA?
- What welfare policies are shifting that might affect animal production?
 - Who is making these policies?
- How might these be affecting the US food supply and producers?

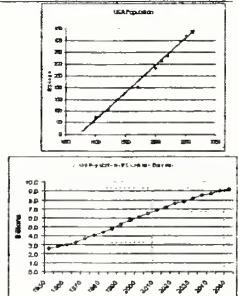
Modern Food Production

- Why do we use livestock for food?
- Livestock represent sources of high-quality protein
 - Photosynthesis to meat, milk and eggs
 - Historically allowed storage of protein
 - Adds value (\$) to ag. commodities
 - By-product feeds converted to protein
 - Example: distillers grain

5

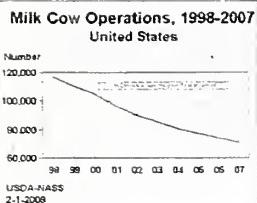
Modern Livestock Farming

- The US and World population is increasing rapidly
- Livestock production is consolidating
- More production from fewer farms and animals



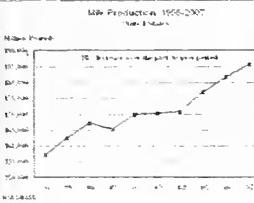
6

Farms are consolidating due to market forces, subsidies and tax policies



If production/cow had stayed same we would need 1.5 million more cows

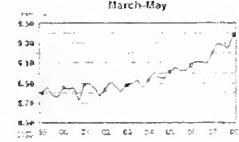
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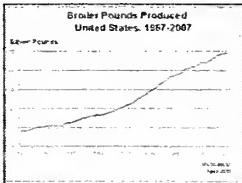
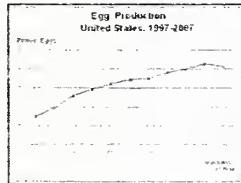
Number of Hog Operations
United States 2007



U.S. Quarterly Litter Rate
March-May



8



9

Modern Farming in the USA

- Farms responding to market forces by consolidating
 - Farms must be profitable
 - Lower margins on commodities = larger farms
 - Subsidy programs and tax policies
- Emphasis has been on efficiency of production
- Farm animal welfare was not a priority in the past
- Organic market increased over past few years
 - Intensive production versus extensive
- Welfare appears to have some effect on consumer spending
- *Intensive livestock farming will continue as primary model*

10

Ethics / Moral Codes Western Culture and "A Good Life for Animals"

What constitutes a good life for animals?

- At least 4 major modes of thought in Western Culture related to animal welfare:
 - Pastoralism
 - Agrarianism
 - Romanticism
 - Industrialism
- From: Understanding Animal Welfare: the Science in its cultural context, David Fraser, 2009

What is animal welfare?

Animal welfare is the ethical responsibility of ensuring animal well-being. Animal well-being is the condition in which animals experience good health, are able to effectively cope with their environment, and are able to express a diversity of species-typical behaviors. Protecting an animal's welfare means providing for its physical and mental needs.

http://www.avma.org/issues/animal_welfare/default.asp 7-06-09

12

Animal Welfare

"Welfare is a wide term that embraces the physical and mental well-being of an animal. Any attempt to evaluate welfare, therefore must take into account the feelings of the animals that can be derived from the structure and functions and also from their behavior."

- Brambell report, 1965

13

The Five Freedoms: welfare ideals for farm animals

- | | |
|---|--|
| <p>1 FREEDOM FROM HUNGER AND THIRST
by ready access to fresh water and a diet to maintain full health and vigor.</p> | <p>4 FREEDOM TO EXPRESS NORMAL BEHAVIOUR
by providing sufficient space, proper facilities and company of the animal's own kind.</p> |
| <p>2 FREEDOM FROM DISCOMFORT
by providing an appropriate environment including shelter and a comfortable resting area.</p> | <p>5 FREEDOM FROM FEAR AND DISTRESS
by ensuring conditions and treatment which avoid mental suffering.</p> |
| <p>3 FREEDOM FROM PAIN, INJURY OR DISEASE
by prevention or rapid diagnosis and treatment.</p> | |

14

US Farm Welfare Laws

Federal Laws:

- Humane Slaughter Act
 - Originally passed 1958
 - Applies only to livestock
 - Excludes poultry, rabbits and fish
 - Allows ritual slaughter practices (Halal and kosher)
- 28 hour transport rule

California State Laws:

- Illegal to drag non-ambulatory animals
- Cannot dock cattle tails

Ohio:

- Well-being Board

Who sets Welfare Policy in the US? A Brief History of Farm Welfare in the US

- 1980's: PETA demonstrated inhumane slaughter
- 1990's: PETA successfully pressured McDonald's, Burger King and Wendy's to require suppliers of meat and eggs to conform to certain welfare guidelines

15

Who is setting Policy?

*Corporate Intervention: 1990's
(ethical responsibility, response to consumers)*

- "Burger King Corporation will... mandate a minimum of 75 square inches of usable floor space per bird.
- Additionally, Burger King Corporation will require that the birds be able to stand fully upright in the entire cage floor space."



16

Latent Cognitive Dissonance

- If people consistently need to act in a way that is out of sync with their attitudes, they may change their attitudes to avoid the emotional conflict. This is known as *cognitive dissonance*.
C.R. Heleski, A.J. Zanella
<http://nursing.msu.edu/nabi/Heleski.pdf>
- Battery cage, gestation stall, veal housing in conflict with most people's ethics
- "license to produce livestock products"

18

Who is setting Policy?

A Brief History of Farm Welfare in the US

Industry Attempts to self-regulate:

- NCCR/FMI Animal Welfare Guidelines
 - National Council of Chain Restaurants
 - Food Marketing Institute
- United Egg Producers Certified
- Swine Welfare Assurance Program
- Dairy FARM program
- Third Party Welfare Audits
- Retailer programs
- Current Farm Welfare Policy in USA



19

Who is setting policy?

Humane Society of the United States (HSUS)

"MAINE BECOMES SIXTH U.S. STATE TO BAN EXTREME CONFINEMENT"

- Effective January 1, 2011, the new law will prohibit gestation crates and veal crates—individual cages that virtually immobilize breeding pigs and veal calves for nearly their entire lives.
- In addition to California, four other states have passed similar reforms, including Colorado, Florida, Arizona and Oregon.
- Ohio also negotiated housing standards
- *States are setting policy in response to welfare groups*

20

Animal Production Industry Standards

(welfare audits, assessments, guidelines)

- 1) Must be clear that the welfare and interests of the animals have appropriate weight relative to the human use of the animals
- 2) Consumers must have confidence that the standards are taken seriously and that livestock producers will follow the recommended practices
- 3) Producers must believe the standards are established and administered fairly

Thompson, P. B. 2005. Animal agriculture and the welfare of animals. J. Am. Vet. Med. Assoc. 226:1325-1327.

Standards must be real and they must be enforced

21

Current Welfare Issues in Transition

- | | |
|---|---|
| <ul style="list-style-type: none"> • Housing <ul style="list-style-type: none"> – Poultry – Battery cages – Sow gestation stalls – Sanitation (manure) dairies • Early separation from mother • Pain management | <ul style="list-style-type: none"> • Transportation <ul style="list-style-type: none"> – Density on truck – Length of haul – Age at transport <ul style="list-style-type: none"> • 2 to day rule for calves • Non-ambulatory animals • Slaughter <ul style="list-style-type: none"> – Ritual slaughter – Poultry and rabbit |
|---|---|

A Policy Shift: California Proposition 2

- Requires that calves raised for veal, egg-laying hens and pregnant pigs be confined only in ways that allow these animals to lie down, stand up, fully extend their limbs and turn around freely.
- Exceptions made for transportation, rodeos, fairs, 4-H programs, lawful slaughter, research and veterinary purposes.
- Provides misdemeanor penalties, including a fine not to exceed \$1,000 and/or imprisonment in jail for up to 180 days.
- Takes effect 2015

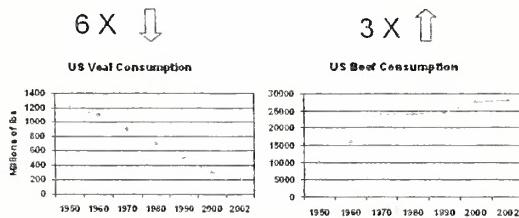
23

Welfare Issues with "Traditional Veal"

- Behavior
 - Limited or no contact with other calves
 - Stereotypy of licking side (excessive grooming) from lack of rumination or suckling
 - "hair balls" in abomasum (bezooar)
- Deficient in iron
 - Iron for calf comes from soil
 - Intended to reduce hemoglobin
- Housed on raised floors to prevent eating dirt (iron)
 - Wooden slated floors can damage knees as calf gets heavy
- Indoors, often in dark rooms

24

When producers don't listen to consumers:



<http://www.fsis.usda.gov/Frame/FrameRedirect.asp?main=/oa/pubs/veal.htm>

25

Current Veal Production in the US

"Veal farmers are ahead of schedule as they work to meet the American Veal Association (AVA) commitment to transition all veal farms to group housing by 2017. An April survey found that 34.8 percent of the veal calves currently going to market are raised in group-housing facilities."

"In May 2007, the AVA's board of directors voted unanimously to adopt a resolution calling for all U.S. veal farms to transition to group-housing systems by Dec. 31, 2017. The board also encouraged more research to aid farmers in the transition."

- **Veal calves move to group housing**
By Dairy Herd news source | Monday, June 09, 2009

So: effect of policy will be to bring veal housing in-line with society values, probably allowing expansion of market

26

Sow Housing Welfare Issues

- Sows not able to turn around for nearly entire adult life
 - Directly in conflict with people's values
- Sows unable to exhibit normal behaviors
 - Grouping
 - Nesting
 - Digging
- Criticisms to change:
 - Aggression in group housing

Landmark Gestation Stall Policy

- "Smithfield Foods and our hog production subsidiary Murphy-Brown have committed to phasing out individual gestation stalls for pregnant sows at all company-owned sow farms and are replacing them with group housing. We announced the program, known as "free access," in January 2007.

We based our decision on initial results from our own three-year study into sow housing to determine the impact such a switch would have on sows. Our research results showed that group housing arrangements work as well as gestation stalls in providing sows with proper care during their pregnancies."

<http://www.smithfieldfoods.com/responsibility/gestation.aspx>

Smithfield Sow Housing Policy

- "To date, Smithfield has already completed the sow housing conversion at three farms, but no longer expects to meet its 10-year commitment of completing the sow housing conversion by 2017.
- That decision stemmed from the fact the Smithfield, VA-based company recently posted a fiscal year 2009 loss of \$190 million. The conversion from sow stalls to group pen housing would cost the company an estimated \$300 million.
- "We remain committed to implementing the program as soon as economic conditions improve," the company said in its report."

So: effect of policy will be to bring sow housing in-line with society values

ANIMALS—BOVINE TAIL DOCKING

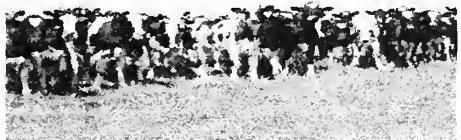
Legislation to regulate a painful practice

- **Illinois: SB1336** Introduced 2/10/2009
Provides that no person may dock or hire any other person to dock the tail of any living member of the bovine species. Provides that any person who violates this provision is guilty of a Class C misdemeanor and must pay a fine not to exceed \$500. Authorizes licensed veterinarians to dock tails if doing so is necessary to protect the health of the animal. Defines "dock".
- **SB 135: prohibits tail docking cattle in California as of January 1, 2010**
– Presented by HSUS

30

Poultry Housing

- The most difficult change in welfare policy
- Changing from current battery cage systems will be a major shift that affects production
- Costs range from 5 cents/dozen to > 20% increase
- Difficulty in agreeing on guidelines
 - Size of enclosures
 - Necessity of allowing behaviors



Curious, and probably happy, cows

World Views and Animal Welfare Regulations

Wes Jamison

Animals in America:
Animal Agricultural
Conflict as Competing
Worldviews

Wes Jamison, PhD
Palm Beach Atlantic University
& University of Florida

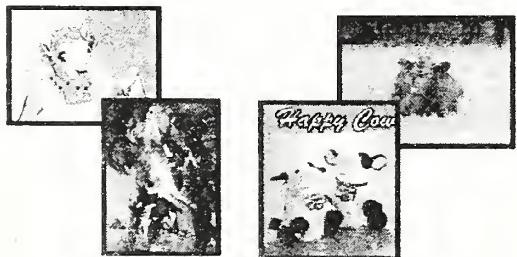


Outline

- Thesis
- Definition
- Example
- Application
- Implications
- Summary



Thesis: there is no central, coherent
interpretation of the role of animals



Meta-narrative Definition

- "a global or totalizing cultural narrative schema which orders and explains knowledge and experience" (Stephens, 1998)
- A comprehensive worldview that places phenomena in a larger context
 - Sub-conscious
 - Taken for granted
 - Explanatory
 - Comforting



Meta-narrative Example: what is “America”

- Forefathers fled persecution to found a “City on a Hill”



Meta-narrative Example: what is “America”

- They braved incredible hardship because of the courage of their convictions



Meta-narrative Example: what is “America”

- “America” was an ideal as much as a place



*“Give me your tired,
your poor,
Your huddled masses
yearning to breathe free.
The wretched refuse of
your teeming shore.
Send these, the homeless,
tempest-tossed to me,
I lift my lamp beside the
golden door!”*



Meta-narrative Example: what is “America”

- American exceptionalism → America is somehow ‘better’



Meta-narrative Conflict: whose “America”?

- The old, established meta-narrative has been challenged & has largely disintegrated



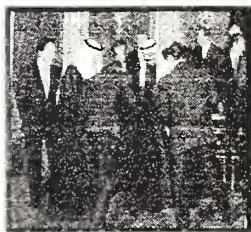
Meta-narrative Conflict: whose “America”?

“Mission Accomplished”

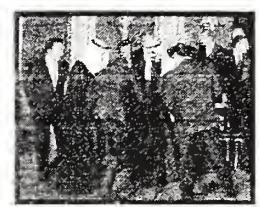


Meta-narrative Conflict: whose “America”?

"I believe in American exceptionalism, just as I suspect that the Brits believe in British exceptionalism and the Greeks believe in Greek exceptionalism."



Meta-narrative Conflict: whose “America”?



Meta-narrative Conflict: whose “America”?

- Political debates are largely symbolic
- Policy debates often mask the deeper symbolic conflict
- As old, established meta-narrative is challenged, conflict emerges
- The uproar about President Obama's ‘apologies’ can be seen as a meta-narrative violation, e.g. “is America ‘different’ & ‘better’?”
- Post-modernity is typified by multiple narratives
→ no ‘dominant’ worldview

Worldview Application: disintegrating animal meta-narratives



Meta-Narrative Application: old narrative



Anthropocentric instrumentalism

Meta-Narrative Application: old ‘welfare’



We can use animals as long as unnecessary pain and suffering are minimized

Meta-Narrative Application: Exemplary narrative chaos



Meta-Narrative Application: Exemplary narrative chaos



Current Narratives

- The Mirror: animals reflect people, e.g. how we treat them shows us ourselves
- The Model: animals are perfect family members. e.g. malleable, compliant, transportable
- The Misanthrope: nature is good ; animals are natural; therefore altering animals is bad
- The Muse: animals teach us how to be better humans

What happened?

- For a significant majority of Americans, the role of animals in their lives changed
 - From instrument used as tool and commodities to instrument used for human aesthetic purposes
 - Companionship
 - Entertainment
 - Symbolic repositories of human virtue

Key: the existing narrative (consumptive anthropocentric instrumentalism) no longer resonated with Americans' experiences with animals

Importantly, instrumentalism still extant but evolved

What happened?

- A dominant, cohesive meta-narrative regarding the role and utility of animals has disintegrated
- What, exactly, is an animal, and what is its role in our lives?



Implications

- Bernie Rollins: Public sentiment has changed, therefore agriculture must change with it
- There IS NO "public sentiment", no unified and cohesive meta-narrative about animals
- There are multiple publics with multiple narratives
- Philosophers and interest groups attempt to fill the vacuum with multiple narratives
- This is not primarily a conflict about changing social values but about competing narratives about the role of animals

Implications

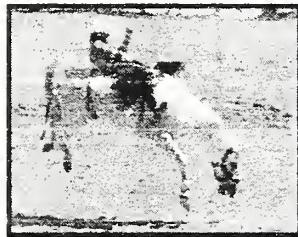
- Consumers increasingly view animals through a meta-narrative framework of pet ownership
 - Anthropocentric instrumentalism is still operative, but different
 - Individual proximity + individual attention and care = greatly increased expectations
- Animal agriculture's core meta-narrative reflects a core reality: it modifies counters natural systems & cycles to maximize animal productivity for human benefit
- These meta-narratives, these world-views, are incompatible

Policy Implications

- Animal agriculture as currently practiced is not sustainable in the long run without a socially accepted meta-narrative about the role of animals
- Policy debates will be increasingly fractious and irreconcilable because policy reflects commonly held values
- Those values require cohesive, commonly held meta-narratives
- Policy dispute resolution requires either shared values or shared experiences typified by a common world-view about animals

Summary

- Metaphor
- Thesis
- Definition
- Example
- Application
- Implications



Summary

This---and all animal welfare conflict---can be seen through the lens of disintegrating meta-narratives

Look closely at this image and what it tells you about American self-image & the role of animals



Conclusion



Update on the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching

Janice Swanson
and
John McGlone

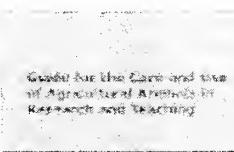
Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching



Janice C. Swanson, PhD
John J. McGlone, PhD
Co-Chairs
2nd Revised Edition

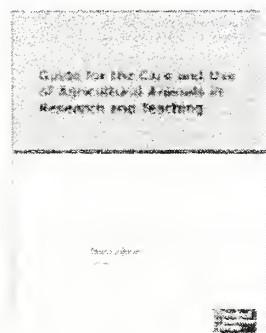
History

- First Edition 1988
- Second Edition (first revision) 1999
- Third Edition 2010



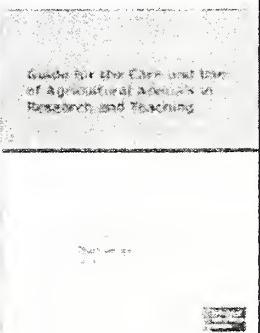
History

- Prior to the first edition, there was a lab animal guide, but no farm animal guide



History

- Farm animals at universities, government labs and some pharmaceutical companies had only the lab animal guide – which was not suited to farm animals



History

- On-farm guides were not available in 1988
- Some farm animal guides were developed using the FASS Ag Guide as a starting point
- There is no logical reason for requirements to differ on farms and in labs

Guide for the Care and Use of Agricultural Animals in Research and Teaching

History

2010 Ag Guide

- 62 authors – all specialists in their species or areas
- Science-based animal care

Guide for the Care and Use of Agricultural Animals in Research and Teaching

Subcommittee Chairs

Topic

- Steven Ford, PhD
- Frank Mitloehner, PhD
- Wendy Underwood, DVM
- Temple Grandin, PhD
- Joy Mench, PhD
- Carolyn Stull, PhD
- Pamela Ruegg, DVM
- Patricia Hester, PhD
- Greg Lewis, PhD
- Terry Mader, PhD
- Janeen Salak-Johnson, PhD
- Institutional Policies
- General Guidelines Husbandry & Facilities
- Agricultural Animal Health
- Transportation & Handling
- Environmental Enrichment
- Guidelines for Horse Husbandry
- Guidelines for Dairy Cattle Husbandry
- Guidelines for Poultry Husbandry
- Guidelines for Sheep & Goat Husbandry
- Guidelines for Beef Cattle Husbandry
- Guidelines for Swine Husbandry

Previous edition

**AAALAC, Intl
&
USDA
APPROVED**

We do not know
how they will
view the revision

GUIDE
For the Care and Use
of Agricultural
Animals in
Agricultural Research
and Teaching

Revision



2nd Revised Edition

New Chapters

- Transportation and Handling
- Environmental Enrichment

Deleted Chapter 4 & 11

- Physical Plant – combined with chapter 2
- Veal Calf Husbandry

New information

- Genetically engineered and cloned livestock and poultry

Modern Technologies

- Addition of text concerning transgenic/genetically engineered and cloned animals



Examples

Floor Space Requirements for Groups of Growing Pigs

square feet per pig "required"			
Pig Wt. lb	Ag Guide, FASS 2010*	SCH. NPB 2003	ILAR. 2010
30	2.0	2.5	15.0
101	4.6	5	48.0
280	9.1	8	60.0

* From the general formula: area = 0.033 BW^{0.67}

Examples

Floor Space Requirements for Transport of Growing Pigs

square feet per pig "required"		
Pig Wt. lb	Ag Guide, FASS 2010*	SCH. NPB 2003
250	5.0	4.26
300	6.0	4.79
400	7.0	6.39

* Gives more space in summer than winter to transported pigs

Revisions: Chapters 2 & 4...

- Section on environmental enrichment was omitted from the new Chapter 2
 - Reason: to avoid duplication with new chapter on environmental enrichment.
- Section "Temperature, water vapor pressure, and ventilation" has been moved after section on "Macroenvironment and microenvironment"

Revisions: Chapter 2 & 4 ...

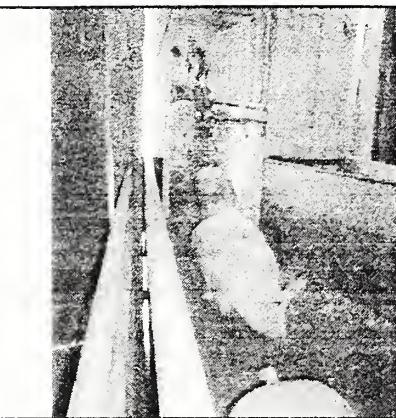
- A section on bio-security was added
- Additionally, revision suggestions that were brought forward by the public (e.g., Humane Society) were fully considered and largely implemented.
- Literature and references updated

Chapter 4: Physical Plant Chapter 11: Guidelines for Veal Calf Husbandry

- **Chapters eliminated**
 - Chapter 4 combined with 2
 - Chapter 11
 - calf care is addressed in the dairy and beef cattle husbandry chapters

To download a free copy of the entire Ag
Guide or any chapter:

<http://www.fass.org/page.asp?pageID=216>



Update on the Horse Slaughter Issue

Krishona Martinson
and
Tom Lenz

Update on Horse Processing (Slaughter)

Krishona Martinson, PhD and Tom Lenz, DVM
University of Minnesota and Pfizer Animal Health

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Driven to Discover

Background

- The AHC estimates there are 9.2 million horses in the US.
- It is estimated that 1 to 2% of US horses are "unwanted" (92,000 to 184,000).
- "Unwanted" = those no longer wanted by their owner because they are old, sick, injured, unmanageable, or fail to meet expectation (AAEP).



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Driven to Discover

Background

- Slaughter – humane ending of an animal's life under federal regulation when the carcass is processed at a licensed meat plant for food purposes (AFAC).
- According to the American Veterinary Medical Association (AVMA), there are three approved methods for the euthanasia of horses: chemical euthanasia with pentobarbital or a pentobarbital combination, gunshot, and penetrating captive bolt.

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Background

- In 2007, 58,000 horses were processed for meat in the US, 35,000 exported to Canada and 45,000 exported to Mexico (USDA).
- Between 2002 to 2005, horses shipped to Canadian processing plants included:
 - 43% Geldings; 52% Mares; 3% Stallions
 - 70% Western-type; 11% English-type; 4% Draft-type



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Background

- Why is horse processing so emotional and perceived as being offensive in the US?
- The horse industry tends to classify horses as "livestock" while the general public tends to classify and perceives the horse as a "companion animal" "pet".
- Horses are a US symbol of freedom.



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Legislation

- In 1996, APHIS received regulatory responsibility for humane commercial transportation of horses to processing plants.
- The 1996 legislation also phased out the use of double-decker trailers for horse transportation.
- Double-decker trailers were fully phased out in 2006.



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Legislation

- Legislation surrounding horse processing (slaughter) began in 2001 when a bill (Morella – NY) prohibiting the transport of horses to slaughter was introduced.
- This bill was never taken up by the US House.
- The bill struck an emotion cord.



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Driven to Discover™

Legislation

- Implications of the 2001 bill:
 - Proponents argued it would eliminate pain and suffering of horses shipped to processing plants.
 - Unwanted horses could be absorbed by equine retirement/rescue organizations.
 - Opponents argued unintended consequences of increased neglect, abuse and abandonment.
 - Added cost of euthanasia and carcass disposal.
 - Shipment to foreign countries without APHIS oversight.



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Driven to Discover™

Legislation

- In 2003 and 2004, The American Horse Slaughter Prevention Act (HR 857) was introduced (Sweeney – NY) to prohibit the slaughter of horses for human consumption.
- S 2353 was introduced (Ensign – NV) in the Senate.
- Both limited the methods available for euthanasia of horses, including penetrating captive bolt.
- Neither bills moved out of committee.

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Driven to Discover™

Legislation

- The Horse Slaughter Prohibition Bill (HR 503) was introduced in the House on February 1, 2005 and aimed to prohibit the sale or transportation of horses to slaughter for human consumption.
- A similar bill was introduced in the Senate (S 1915).
- In 2006, HR 503 passed the House, but was not taken up by the Senate.



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Legislation

- In 2007, HR 503 was reintroduced (Whitfield – KY) along with a new Senate bill (S 311) (Landrieu – LA).
- Both bills aimed to end slaughter of the US horse for human consumption and prohibited export to other countries.
- Neither bills moved forward.



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Legislation

- In 2007, a 1949 TX law that prohibited the slaughter of horses was discovered and enforced.
- That same year, IL bill HB 1711 was passed and banned slaughter of horses for human consumption in IL.
- Both bills closed the remaining horse processing plants in the US.



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Legislation

- In 2008, The Prevention of Equine Cruelty Act (HR 6598) was introduced (Conyers – MI) and imposed a fine or prison term for possessing, shipping, or transporting horses or horse parts for human consumption.
- The bill gave enforcement to the US Attorney General and not the Secretary of Ag.
- The bill was reintroduced in 2009 (HR 503) but has not been taken up by the House.

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Legislation

- In 2009, the Senate ordered the Government Accounting Office (GAO) to conduct an investigation into the impact that banning US horse slaughter has had on horse welfare and farm income.
- The study results should be released in early 2011.
- Some states have also introduced horse processing bills:
 - Oppose processing: CA, FL
 - Support processing/transportation: AR, ID, IL, KS, KY, MN, MO, MT, OK, SD, UT, WY

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Research

- Can rescue/retirement facilities handle *all* unwanted horses?
 - AAEP estimates there are 450 not-for-profit rescue/retirement facilities in the US with capacity for 6,000 to 10,000 horses.
 - Estimated 100,000 unwanted horses/year.
 - \$2,300 per horse per year for care (AHC, 2009). \$230 million cost.
 - \$385 per horse for euthanasia and carcass disposal (AHC, 2009). \$38.5 million cost.



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Research

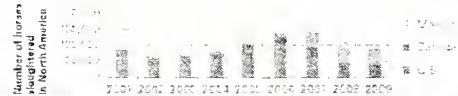
- Are horses transported to slaughter cared for?
 - 77% of severe welfare problems of 1,008 horses transported to slaughter were caused from abuse or neglect by the owner (Grandin, et al., 1999).
 - Fighting was the major cause of injuries during transportation..



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Research

- Transportation
- In 2009, 88,276 horses were processed in North America (USDA).
- From 2001 to 2009, the mean number of horses processed each year was 97,954 (USDA).



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Research

- The Unwanted Horse Coalition (AHC) conducted a study on *Contributing Factors Surrounding the Unwanted Horse Issue*.
- The survey was conducted from Nov 2008 to Jan 2009 by an independent market research company.
- More than 23,000 horse owners, equine industry, and non-horse owners participated.



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Research

- More than 90% of participants believed that the number of unwanted, neglected, and abused horses are increasing.
- About 87% of the participants indicated that in the past year, the issue of unwanted horses has become a big problem," compared with only 22% three years ago.



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Research

- The economy is considered to be a significant contributor to the unwanted horse problem.
- The closing of the nation's processing facilities, changes in breed demand/indiscriminate breeding, and the high costs of euthanasia and carcass disposal were also noted.



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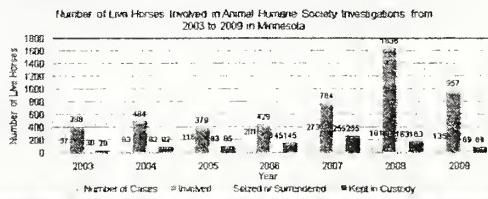
Research

- 63% of equine rescue/retirement facilities polled reported that they are at, near, or have full capacity and on average turn away 38% of the horses brought to them.
- Top solutions for solving the problem are to educate owners to purchase and own responsibly, increase private rescue and retirement facilities, reopen US processing plants, and increase options and resources for euthanasia and carcass disposal.

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Unintended Consequence

- A consequence of banning equine processing (and other factors) has been an increase in unwanted horses.



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Extension's Role

- Provide research based information to horse owners.
- Cooperate with agencies and organizations to explore and implement solutions.
- In MN:
 1. Legislative support
 2. Education
 3. Free castration clinics



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Extension's Role

- Provide legislative support.
 - In MN, Horses are now classified as livestock.
 - [17.459] HORSES. Subdivision 1. Classification as livestock. Horses and other equines raised for the purposes of riding, driving, farm or ranch work, competition, racing, recreation, sale, or as breeding stock are livestock. Horses and their products are livestock and farm products for purposes of financial transactions and collateral. Subd. 2. Agricultural pursuit. Raising horses and other equines is agricultural production and an agricultural pursuit.

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Extension's Role

- Education in MN.
- Regional Horse Owner Programs (face-to-face).
 - Roundtable on Unwanted Horses.
- E-newsletter articles.
- Factsheets (www.extension.umn.edu/horse)
 - Equine Economics: Optimizing Horse Health and Management on a Budget.
 - Humane Options for Unwanted Horses .



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Extension's Role

- The Gelding Project: Education Earns Stallions to Geldings
- The Minnesota Horse Welfare Coalition (MHWC) was developed in 2008 in response to the growing number of equine related humane cases in Minnesota.
 - MHWC includes the MN Horse Council, MN Animal Humane Society, Equine Rescues, University of MN, and MN Association of Equine Practitioners.



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Extension's Role



- The Gelding Project: Education Earns Stallions to Geldings
- Horse owners who enroll in the program can earn a voucher for a castration once they attend eight education sessions.
 - Stallions must be halter broke with two descended testicles.
 - The voucher covers the cost of castration, anesthesia, post operative antibiotic and tetanus prophylaxis.
 - The MN Horse Council reimburses participating veterinarian for the service.
 - Participants must be 18 years old and a MN resident.
 - Vouchers cost \$5.

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Extension's Role

- Free Castration Clinics (privately funded).
- Held each spring and fall in MN. Sept 2009 and May 2010 and planned for Sept 2010.
- To be eligible, horse owners must be referred by a horse rescue, humane agent or local veterinarian based on an economic hardship.
- Castrations are performed by U of M veterinary students while supervised by licensed equine veterinarians.



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Extension's Role

- Free Castration Clinics.
 - Castrated 40 stallions to date.
 - 12 Minis, 6 Arabs, 6 QH, 5 Mustangs, 3 Paints, 3 Pintos, 2 Mini Donkeys, 1 Welsh, 1 Shetland, and 1 Peruvian Paso.
 - Ages 4 months to 19 years.
 - Have saved MN stallion owners \$10,000.
 - Eliminated 1,000 potential foals.

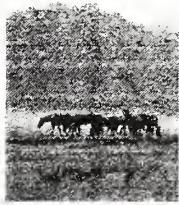
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Conclusions

- The equine industry will never be able to eliminate all unwanted horses in US.
- Extension's Role
 - Research
 - Outreach and Education
 - Legislative Support
 - Facilitate Cooperation Within the Equine Industry
 - Explore and Implement Solutions to the Unwanted Horse Problem

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Notes

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